



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,036	06/08/2005	Tadahiko Hirai	03500.017983	8910

5514 7590 10/02/2007  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
----------

CHOWDHURY, AFROZA Y

ART UNIT	PAPER NUMBER
----------	--------------

2629

MAIL DATE	DELIVERY MODE
-----------	---------------

10/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/538,036

Applicant(s)

HIRAI ET AL.

Examiner

Afroza Y. Chowdhury

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/4/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. One of the technical papers (Hamada, Sharp Tech Report) in IDS is not considered since it is not provided.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. In claim 1, the sentence "***periodically applying positive and negative voltages***" is a single means claim.

A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor. When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

A single means claim, i.e. where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S. C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cr. 1983).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujioka et al.** (US Patent 6,924,782).

As to claim 1, Fujioka et al. discloses a method of driving a liquid crystal display device including a TFT, comprising periodically applying positive and negative voltages, with reference to the voltage applied to the source and drain electrodes, to the gate electrode of the TFT (col. 1, lines 38-45).

Fujioka et al. does not explicitly teach a method of driving an integrated circuit including a field effect transistor.

However, it is well known in the art that a thin film transistor (TFT) is a field effect transistor (FET).

Therefore, it is obvious for Fujioka et al. to drive TFT (a kind of a FET) type integrated circuit such as a liquid crystal display device by periodically applying positive and negative voltages to the gate of the TFT in order to prevent afterimage phenomenon.

As to claim 5, Fujioka et al. teaches a method wherein positive and negative voltage pulses, with reference to the voltage applied to the source and drain electrodes, are applied alternately to the gate electrode of the TFT (a kind of a field-effect transistor) (col. 1, lines 38-45).

As to claim 6, The method according to claim 1, wherein positive or negative voltage pulses, with reference to the voltage applied to the source and drain electrodes, are continuously applied to the gate electrode of the field-effect transistor, and then one or more negative or positive voltage pulses respectively are applied to the gate electrode (a kind of a field-effect transistor) (col. 1, lines 38-45).

As to claim 7, it would be obvious that in order to apply positive and negative voltages periodically to the display device of Fujioka et al., the positive and negative pulses has to be equivalently weighted by adjusting the duration or pulse number of the positive and negative voltage pulses applied.

As to claim 8, Fujioka et al. teaches to drive an integrated circuit (col. 1, lines 38-45).

As to claim 11, Fujioka et al. teaches to drive a liquid crystal device (col. 1, lines 38-45).

6. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujioka et al.** (US Patent 6,924,782) in view of **Liu et al.** (US Patent 6222201).

As to claim 2, Fujioka et al. discloses a method of driving a liquid crystal display device including a TFT (col. 1, lines 38-45).

Fujioka et al. does not explicitly teach a method of driving an integrated circuit including a field effect transistor.

Liu et al. teaches that a TFT is a kind of a field effect transistor (col. 1, lines 13-19).

Therefore, it is obvious to one skill in the art at the time of the invention was made to use the knowledge of Lie et al. of reduced size transistors in order to drive the liquid crystal display device of Fujioka et al.

As to claim 4, Liu et al. teaches a method where the field-effect transistor comprises a semiconductor material containing amorphous silicon (col. 1, lines 13-19).

7. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujioka et al.** (US Patent 6,924,782) in view of **Ishihara et al.** (US Pub. 2002/0012080).

As to claim 3, Fujioka et al. discloses a method of driving a liquid crystal display device including a TFT (col. 1, lines 38-45).

Fujioka et al. does not explicitly teach a method of driving an integrated circuit including the field-effect transistor comprises a semiconductor material containing an organic substance.

Ishihara et al. teaches organic thin film transistor comprises a semiconductor material containing an organic substance (page 4, [0049]).

Therefore, it is obvious to one skill in the art at the time of the invention was made to incorporate organic TFT of Ishihara et al. into the LCD device of Fujioka et al. to make an integrated circuit with reduced production cost.

As to claim 9, Ishihara et al. teaches an IC card where organic TFT can be used as an active element (page 6, [0067]).

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujioka et al.** (US Patent 6,924,782) in view of **Howard** (US Pub. 2003/0052614)..

As to claim 10, Fujioka et al. discloses a method of driving a liquid crystal display device including a TFT (col. 1, lines 38-45).

Fujioka et al. does not explicitly teach a light emitting diode device.

Howard teaches a organic light emitting display device (OLED) that includes thin film transistors (page 1, [0014]).

Therefore, it is obvious to one skill in the art at the time of the invention was made to drive Howard's organic light emitting display device using the driving method of

Art Unit: 2629

Fujioka et al. in order to stabilize TFTs by reducing the effects of threshold drift (see page 1, [0003], in Howard).

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afroza Y. Chowdhury whose telephone number is 571-270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

9/24/2007

  
AMARE MENGISTU  
SUPERVISORY PATENT EXAMINER